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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,748	08/23/2001	Brenda K. Drake	STL9836/40046.139US1	4096

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EXAMINER

CHEN, TIANJIE

ART UNIT	PAPER NUMBER
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2652

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DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/938,748

Applicant(s)

DRAKE ET AL.

Examiner

Tianjie Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/08-23-2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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Non-Final Rejection

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Peterson (US 4,864,443).

With regard to claim 14, Peterson shows a disc drive spindle motor assembly including: an information storage disc 17 mounted on a cylindrical hub 12; and means 40 (Fig. 4B) for providing a uniform, and centered clamping force to a top surface of the information storage disc.

With regard to claim 15, Peterson further shows the means is a disc clamp 40 (Fig. 4B) having a web portion with a central aperture lined by an inner edge having a series of inwardly extending alignment tabs 48A-C equidistantly spaced around the inner edge.

With regard to claim 16, Peterson further shows each alignment tab has a spindle shaft engagement surface 50A-C to 52A-C) (Column 3, lines 61 to column 4, line 7) and a chamfered edge.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

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matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-10, 12, and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fletcher (US 5,790,346) in view of Peterson (US 4,864,443).

With regard to claim 1, Fletcher shows a disc drive spindle motor assembly in Figs. 4 including: a cylindrical motor spindle hub 180 (Fig. 4; column 5, line 50) having an upwardly extending rim (Fig. 4), the hub mounted to a spindle shaft; an information storage disc mounted on the motor spindle hub; and an annular disc clamp 110 securing the information storage disc to the motor spindle hub, the clamp having an annular web portion, the top edge of inner portion 310 being rounded, which reduces contact with the rim when the disc clamp is secured to the cylindrical hub.

Fletcher does not show that the web portion having a series of inwardly extending tabs, the tabs projecting from an inner edge of the web portion toward the rim, wherein each tab has a rounded top edge for reduced contact with the rim when the disc clamp is secured to the cylindrical hub.

Peterson shows an annular disc clamp 40 in Fig. 4B securing the information storage disc to the motor spindle hub 12, the clamp having an annular web portion, and the web portion having a series of inwardly extending tabs 48A-C and recesses, the tabs projecting from an inner edge of the web portion toward the rim.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to reshape the inner edge of Fletcher's clamp into the shape taught by Peterson with tabs on the inner edge. The rationale is as follows: Peterson teaches that changing the number of the tabs, the number of contact points can be

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changed, thus being able to changing the clamping force as desired (Column 4, lines 11-15). One of ordinary skill in the art would have been motivated to cut the recess as taught by Peterson to form tabs to control the clamping force. In thus modified device, each tab has a rounded top edge as shown in Flecher's device, which would reduce contact with the rim when the disc clamp is secured to the cylindrical hub.

With regard to claim 9, the above combination of Flecher and Peterson shows a disc clamp for securing an information storage disc to a motor spindle hub in a disc drive, the disc clamp including: a web portion having inner edge with a series of equidistantly spaced inwardly extending tabs, each tab having a chamfered top edge; and a peripheral ring portion 324 (Fig. 6B in Flecher) for contacting a top surface of an information storage disc; wherein the chamfered top edge of each tab reduces contact with the motor spindle hub when the disc clamp secures the information storage disc to the motor spindle hub.

With regard to claims 2 and 10, Peterson further shows that the tabs 48A-C are located equidistant from each other around the inner edge of the web portion of the disc clamp (Fig. 4A).

With regard to claim 3, Peterson further shows that there are three tabs.

With regard to claims 5 and 12, Peterson further shows the disc clamp has a series of upwardly extending pressure lobes 52A-C (Fig. 4B) located from a peripherally located ring, the pressure lobes, which would spread the downward force on the information storage disc by the disc clamp (Column 4, lines 5-7).

With regard to claim 6; Flecher shows the web portion and the top surface of the spindle hub each define a series of equidistantly spaced screw holes 316 (Figs. 4 and 6A; column 5, lines 49-52) for receiving a series of screws to secure the disc clamp

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to the spindle hub. Peterson shows a number of holes (Fig. 4B) being equal the number of tabs in the web portion.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to use Peterson's clamp in Flecher's device, and use the holes of Peterson's clamp as screw holes, which the number (Fig. 4B) being equal the number of tabs in the web portion. The rationale is as follow: Peterson teaches that the number of contact points, which equals the number of the tabs, is used to control the clamping force (Column 4, lines 3-25). The number of the screw hole will determine the number of point to exert force on the disk, i.e. determines the number of contact points. One of ordinary skill in the art would have been motivated to set the number of screw holes equal to the number of tabs.

With regard to claim 7, Peterson further shows that the tabs and screw holes in the web portion of the disc clamp are substantially laterally aligned.

With regard to claim 8, Flecher shows a clamp with inner edge 311, but does not specify that the inner edge of the web portion moves downward and away from the spindle shaft during installation.

However, Flecher and Peterson's device has same structure as the device disclosed in this application. One of ordinary skill in the art would have been expecting that Flecher and Peterson's device would have same function: that the inner edge of the web portion moves downward and away from the spindle shaft during installation.

With regard to claim 13, Flecher further shows that the web portion is substantially parallel to the top surface of the information storage disc.

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With regard to claim 14, the Flecher and Peterson's device shows a disc drive spindle motor assembly including: an information storage disc mounted on a cylindrical hub; and means for providing a uniform, and centered clamping force to a top surface of the information storage disc.

With regard to claim 15, Peterson further shows the means is a disc clamp 40 (Fig. 4B) having a web portion with a central aperture lined by an inner edge having a series of inwardly extending alignment tabs 48A-C equidistantly spaced around the inner edge.

With regard to claim 16, Peterson further shows each alignment tab has a spindle shaft engagement surface 50A-C to 52A-C) (Column 3, lines 61 to column 4, line 7) and a chamfered edge.

3. Claims 4 and 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flecher in view of Peterson as applied to claim 1 above, and further in view of Applicant Admitted Prior Art (AAPA).

With regard to claims 4 and 11, Peterson shows a disc clamp as described above, but does not show that the disc clamp is stamped from sheet metal.

However, AAPA disclosed that "the substantially less expensive leaf spring disc clamp, stamped from sheet metal, has become popular, and relatively prominent type of clamp used within the disc drive industry" (Specification, p. 2, lines 7-9). One of ordinary skill in the art would have been motivated by AAPA to include an option of stamping the clamp from sheet metal.

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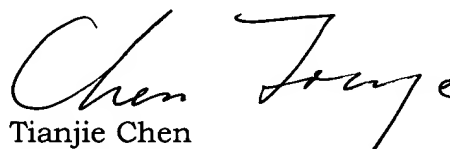
Conclusion

4. The prior art made of record in PTO-892 Form and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is (703) 305-7499. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tianjie Chen
Primary Examiner
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02/02/2004